

May 15, 2014

Pam King **Washington Holdings** 600 University Street, Suite 2820 Seattle, WA 98101

RE: Water Quality Testing, EPA Tenant Improvement Project Park Place Building P1, Diving Operations, Floor 1, 2, 16 and 21 1200 6<sup>th</sup> Avenue Seattle, Washington

RGA Job# WAHLD35088

On May 14, 2014, Emily Kahler and Andrea Liljegren, Industrial Hygienists for RGA Environmental, Inc. (RGA) conducted drinking water testing for lead at the above captioned site. Testing conducted in accordance with EPA-812-B-94-002 was conducted to collect samples from locations not previously sampled on floors 1, 2 16. Repeat samples were also collected at the service connector on level P1 and on floors 21 and 16 at locations where previous testing found elevated lead levels. The purpose of the testing was to evaluate the drinking water sources following flushing of the water sources. Emily Kahler and Andrea Liljegren were escorted by the Building Chief Engineer (Toni) from the Park Place building.

# **SAMPLING PROCEDURES**

A total of thirty (30) drinking water samples were collected during the sampling event. Samples were collected in sample bottles provided by the Aquatic Research, Inc. (250 ml, polyethylene with nitric acid preservative). Samples were analyzed for lead in drinking water using EPA Method 200.8. Drinking water samples were collected from accessible cold water sinks and faucets and refrigerators in the women's restrooms (1st and 21st floor), break room(1st floor), water fountain(1st and 2nd floor), diving operations (sink, restroom sink, and shower), the service main (P1), the "Grab and Go" Cafeteria Service Area, and the Maternity room(16<sup>th</sup> floor), and at the Park Place building in Seattle, Washington.

The sampling protocol for fountains (half from the bottle filler and half from the drinking bubbler), break room and restroom sinks, diving operation shower and the sinks in the "Grab & Go" Cafeteria, consisted of a "first draw" sample (first water out of the tap following at least 8 hours of non-use) and a "secondary draw" sample (water collected after 30 seconds of flushing).

The sampling protocol for the refrigerators consisted of collecting the "first draw" filling the sample container from the supply tap in the wall (first water out of the tap following at least 8 hours of non-use) and a "secondary draw" sample (water collected after 30 seconds of flushing).

The sampling protocol for the Service Connection/ Service Main consisted of opening the tap closest to the service connection located in the garage (P1) and waiting for the water temperature to change from warm to cold before

<sup>&</sup>lt;sup>1</sup> The water samples collected were submitted within two hours of collection to Aquatic Research, Inc. (lead) in Seattle, Washington for analysis.

collecting the sample for the Service Connection. The water was then flushed for an additional 3 minutes following the collection of the Service Connection sample before collecting the Service Main Sample.

One sample set was collected at the service connector and water main located on the south wall of P1. Three sample sets were collected in the diving operation area (one set each from the sink, the restroom sink and the shower head). Four sample sets were collected on floor 1 (one set from the women's restroom sink and one set each from the sink and refrigerator in the break room, and one set from the water fountain). Planned sampling for men's restroom on the 1<sup>st</sup> floor could not be conducted due to flushing still in progress at the time of the sampling. One sample set was collected from the gym water fountain on the 2<sup>nd</sup> floor. Five sample sets were collected on floor 16 (one set from the break room refrigerator, one set from the Maternal Wellness sink, and one set each from the service area prep sink, hand sink, and 3 compartment sink in the "Grab & Go" Cafeteria). One set was collected on floor 21(women's restroom sink).

# **SAMPLE RESULTS**

Table 1 below presents the sample results for lead samples collected on May 14<sup>th</sup>, 2014.

Table 1—Lead Water Sample Results - May 14, 2014

Location	SAMPLE ID	Lead (Pb)	Result				
		μg/l)					
FLOOR 1							
Women's Room Sink	1-WR-FD-1-01	<1.0	Pass				
	1-WR-SD-1-02	<1.0	Pass				
Water Fountain	1-WF-FD-1-03	<1.0	Pass				
	1-WF-SD-1-04 <1.0		Pass				
Break Room Sink	1-BRS-FD-1-05	1.2	Pass				
	1-BRS-SD-1-06	<1.0	Pass				
Break Room Refrigerator	1-BRR-FD-1-07	<1.0	Pass				
	1-BRR-SD-1-08	<1.0	Pass				
	FLOOR 2						
Water Fountain-Gym	2-WF-FD-1-09	<1.0	Pass				
	2-WF-SD-1-10	<1.0	Pass				
FLOOR 21							
Women's Room Sink	21-WR-FD-1-11	21-WR-FD-1-11 3.0					
	21-WR-SD-1-12	4.8	Pass				
FLOOR 16							
Break Room Refrigerator	16-BRR-FD-1-13	<1.0	Pass				
	16-BRR-SD-1-14	<1.0	Pass				
Service Area 3 Compartment	16-SA3S-FD-1-15	1.1	Pass				
Sink	16-SA3S-SD-1-16	2.2	Pass				
Service Area Hand Sink	16-SAHS-FD-1-17	9.0	Pass				
	16-SAHS-SD-1-18	16-SAHS-SD-1-18 <1.0					
Service Area Prep Sink	16-SAPS-FD-1-19	APS-FD-1-19 <1.0					
	16-SAPS-SD-1-20	<1.0	Pass				
Maternal Wellness Room	16-16MW-FD-1-21	27.5	Action Required				
	16-16MW-SD-1-22	21.5	Action Required				
PARKING LEVEL 1							
Main Water	P1SC-P1SM-FD-1-23	<1.0	Pass				
	P1SC-P1SM-SD-1-24	<1.0	Pass				

DIVING OPERATIONS						
Diving Ops Shower	1-DOSW-FD-1-25	46.5	Action Required			
	1-DOSW-SD-1-26	2.8	Pass			
Diving Ops Restroom Sink	1-DOR-FD-1-27	4.9	Pass			
	1-DOR-SD-1-28	4.0	Pass			
Diving Ops Sink	1-DOS-FD-1-29	1.6	Pass			
	1-DOS-SD-1-30	<1/0	Pass			
EPA Standard*		0				
		AL: 15 μg/L				

\*EPA Drinking Water Maximum Contaminant Levels

FD=First Draw SD=Second Draw

16MW=Maternal Wellness Room (16<sup>TH</sup> Floor) WR=Women's Restroom P1SC/SM=Service Connector/Main (Garage) WF= Water Fountain

SAPS= Service Area Prep Sink SAHS= Service Area Hand Sink

BRS= Break Room Sink

BRR=Break Room Refrigerator

SA3S= Service Area 3 Compartment Sink

DOSW= Diving Operations Shower

DOR=Diving Operations Restroom Sink DOS=Diving Operations Sink

## CONCLUSIONS

Seventeen of the thirty water samples collected contained no detectable concentrations of lead (above  $1\,\mu g/L$ ). Ten of the samples contained lead concentrations between 1 and 15  $\mu g/L$ . No remedial or mitigation action is required for locations with sample results below the Drinking Water action level. Three samples were above the action level. The three samples above the action level were the first draw sample from the Diving Operations shower, and the first and second draw samples from the  $16^{th}$  Maternal Wellness room. Water from these sources should not be used until the source of lead is determined and mitigated.

# **LIMITS OF SURVEY**

This report does not represent all conditions at the subject site as it only reflects the information gathered from specific locations. Observation or sampling of other work areas was not within the scope of RGA's work and was not performed.

This report was prepared pursuant to the contract RGA has with the client. Unauthorized reliance on or use of this report, including any of its information or conclusions, will be at third party's risk. For the same reasons, no warranties or representations, expressed or implied in this report, are made to any such third party.

RGA appreciates the opportunity to provide you with technical support on this project. If you have any questions, please contact the undersigned at 206-281-8858.

Report Prepared by,

Emily Kahler Industrial Hygienist

RGA Environmental, Inc.

Attachments: Lab Reports

Sample Location Maps

Report Reviewed by,

Eric Hartman, CIH

Senior Project Manager RGA Environmental, Inc.

Eni Hortman



# IEH - AQUATIC RESEARCH LABORATORY & CONSULTING SERVICES

# 3927 AURORA AVENUE NORTH, SEATTLE, WA 98103

PHONE: (206) 632-2715 FAX: (206) 632-2417

CASE FILE NUMBER: MIS032-85 PAGE 1

REPORT DATE: 05/15/14
DATE SAMPLED: 05/14/14 DATE RECEIVED: 05/14/14

FINAL REPORT, LABORATORY ANALYSIS OF SELECTED PARAMETERS ON WATER

SAMPLES FROM RGA ENVIRONMENTAL

# CASE NARRATIVE

Thirty water samples were received by the laboratory in good condition and analyzed according to the chain of custody. No difficulties were encountered in the preparation or analysis of these samples. Sample data follows while QA/QC data is contained on the subsequent pages.

### SAMPLE DATA

SAMPLE DATA	
	LEAD
SAMPLE ID	(ug/L)
1-WR-FD-101	<1.0
1-WR-SD-102	<1.0
1-WF-FD-103	<1.0
1-WF-SD-104	<1.0
1-BRS-FD-105	1.2
1-BRS-SD-106	<1.0
1-BRR-107	<1.0
1-BRR-108	<1.0
2-WF-FD-109	<1.0
2-WF-SD-110	<1.0
21-WR-FD-111	3.0
21-WR-SD-112	4.8
16-BRR-FD-113	<1.0
16-BRR-SD-114	<1.0
16-SA35-FD-115	1.1
16-SA35-SD-116	2.2
16-SAHS-FD-117	9.0
16-SAHS-SD-118	<1.0
16-SAPS-FD-119	<1.0
16-SAPS-SD-120	<1.0
16-16MW-FD-121	27.5
16-16MW-SD-122	21.5
P1SC-P1SM-FD-123	<1.0
P1SC-P1SM-SD-124	<1.0
1-DOSW-FD-125	46.5
1-DOSW-SD-126	2.8
1-DOR-FD-127	4.9
1-DOR-SD-128	4.0
1-DOS-FD-129	1.6
1-DOS-SD-130	<1.0



# **IEH - AQUATIC RESEARCH**

# LABORATORY & CONSULTING SERVICES

3927 AURORA AVENUE NORTH, SEATTLE, WA 98103

PHONE: (206) 632-2715 FAX: (206) 632-2417

**CASE FILE NUMBER:** MIS032-85 PAGE 2

REPORT DATE: 05/15/14

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FINAL REPORT, LABORATORY ANALYSIS OF SELECTED PARAMETERS ON WATER

SAMPLES FROM RGA ENVIRONMENTAL

# QA/QC DATA

QC PARAMETER	LEAD	LEAD			
	(ug/L)	(ug/L)			
METHOD	EPA 200.8	EPA 200.8			
DATE ANALYZED	05/14/14	05/14/14			
REPORTING LIMIT	1.0	1.0			
DUPLICATE					
SAMPLE ID	1-WR-FD-101	1-DOS-SD-130			
ORIGINAL	<1.0	<1.0			
DUPLICATE	<1.0	<1.0			
RPD	NC	NC			
SPIKE SAMPLE					
SAMPLE ID	1-WR-FD-101	1-DOS-SD-130			
ORIGINAL	<1.0	<1.0			
SPIKED SAMPLE	47.7	45.9			
SPIKE ADDED	50.0	50.0			
% RECOVERY	95.40%	91.80%			
QC CHECK					
FOUND	47.7	47.7			
TRUE	50.0	50.0			
% RECOVERY	95.40%	95.40%			
BLANK	<1.0	<1.0			

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AND = NOT ADDITION EXECUTED IN TRANSCE.

NC = NOT CALCULABLE DUE TO ONE OR MORE VALUES BEING BELOW THE DETECTION LIMIT.

OR = RECOVERY NOT CALCULABLE DUE TO SPIKE SAMPLE OUT OF RANGE OR SPIKE TOO LOW RELATIVE TO SAMPLE CONCENTRATION.

SUBMITTED BY:

Damien Gadomski Project Manager

www.aquaticresearchinc.com



Aquatic Research Inc. 3927 Aurora Avenue N, Seattle, WA 98103

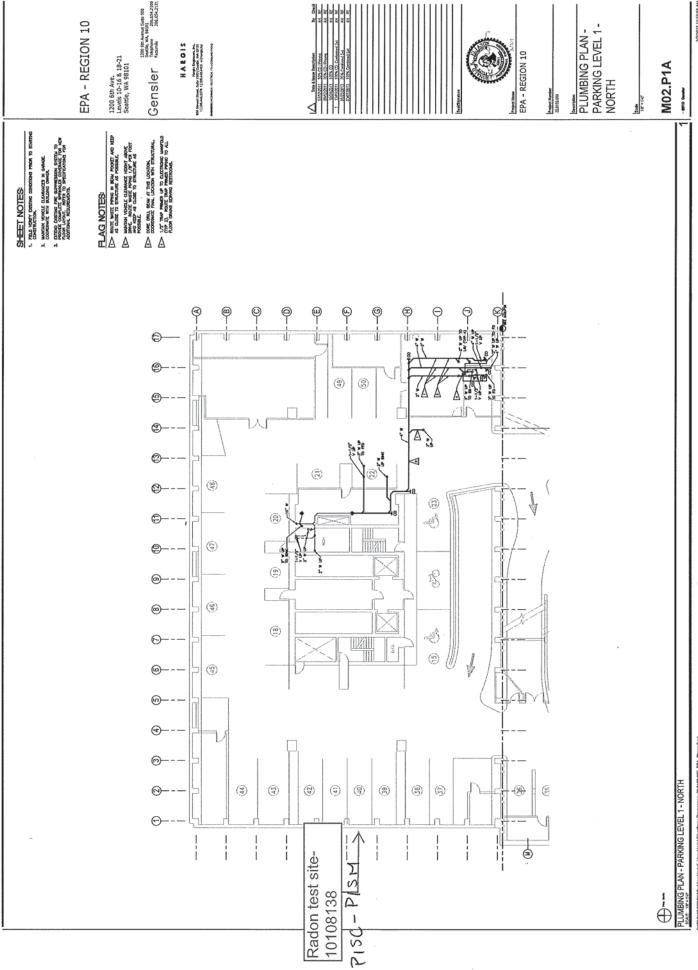
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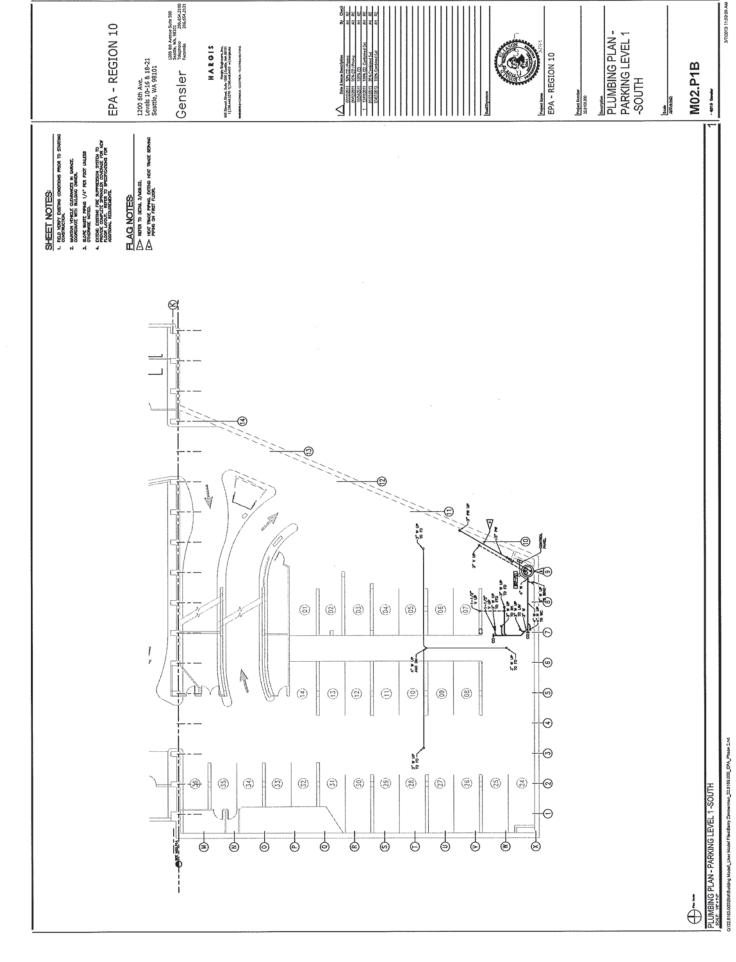
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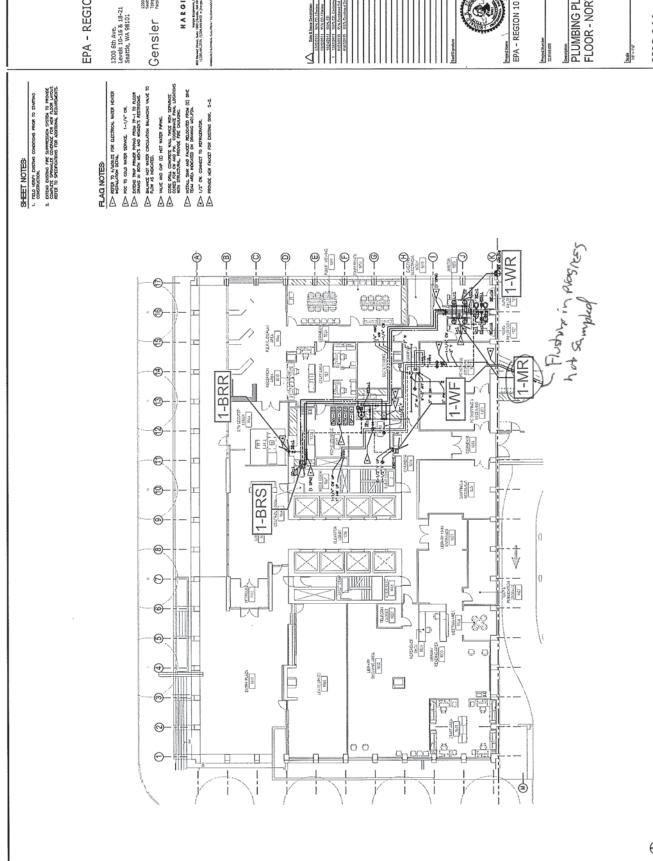
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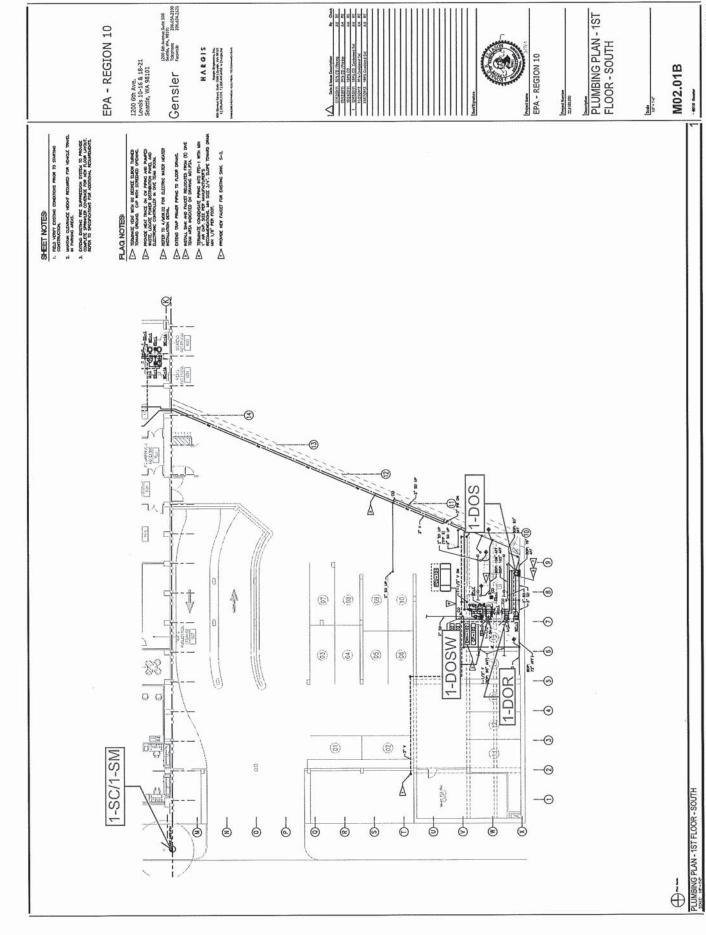
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